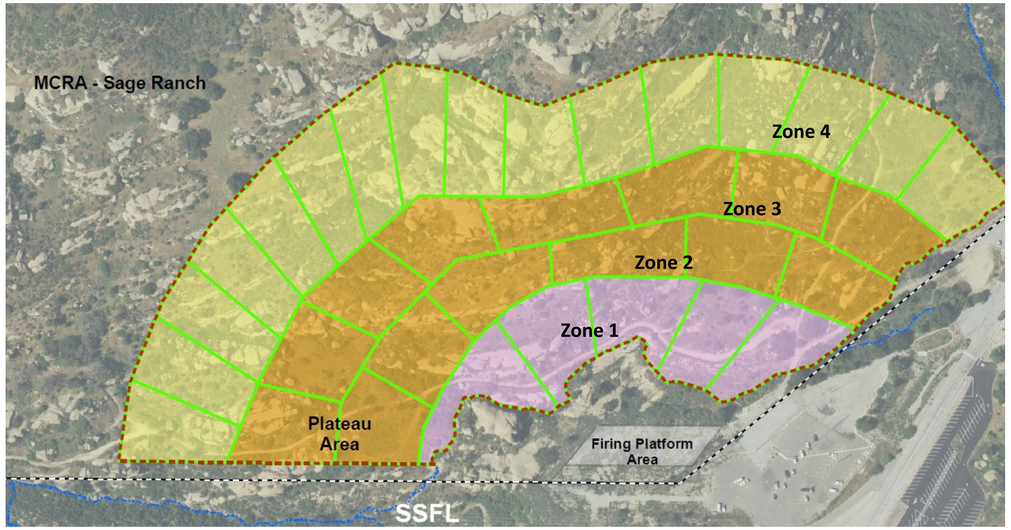
BOEING'S CLEANUP PROGRESS AT THE SHOOTING RANGE



Background

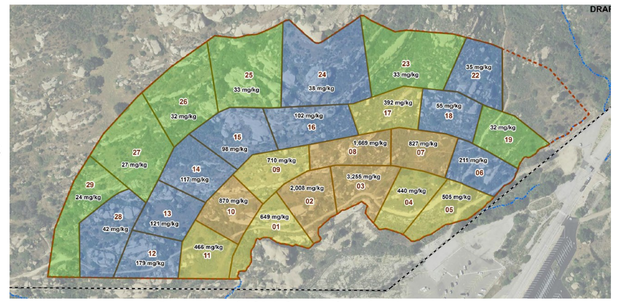
History

- Property leased by the Rocketdyne-Atomics International Rifle and Pistol Club, Inc. in 1972 for the purpose of operating a trap/skeet shooting range (measuring approximately 450 feet by 450 feet).
- Operated as a shooting range from 1972 to 1991.
- Sold to Santa Monica Mountains Conservancy in 1990.
- Visible lead shot cleanup activities performed since 1992 are as follows:
  - 34,000 pounds (17 tons) removed in the winter of 1992
  - 714,085 pounds (357 tons) in 1993/1994
  - 13,007 pounds (6.5 tons) in November/December 1998
  - 33,450 pounds (16.7 tons) in 2006
  - 14,513 pounds (7.3 tons) removed in November/December 2009
  - 9,573 pounds (4.8 tons) removed in May 2010
  - 2,908 pounds (1.5 tons) removed in May 2011
  - 321 pounds (0.15 tons) removed in August 2012
  - 837 pounds (0.42 tons) removed in June 2013
  - 550 pounds (0.28 tons) removed November 2016—March 2017
- Visible lead shot continues to be released in from rock matrix and soils, especially during heavy rains.
- Extensive investigation of the shooting range began in 2016.

Visible lead shot

2016-2017 Investigation

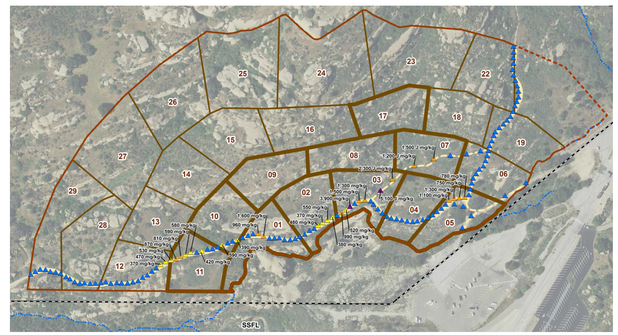
- Visual and X-ray fluorescence (XRF) screening survey for lead shot, clay target, and other debris conducted on a 25 foot grid to determine shape of decision units for incremental sampling.
- Incremental sampling methodology (ISM) conducted on an approximate 30 feet by 30 feet grid. ISM is a structured composite sampling and processing protocol that reduces data variability and provides an unbiased estimate of mean contaminant concentrations within an area targeted for sampling. Samples were analyzed for lead, antimony, arsenic, and polynuclear aromatic hydrocarbons.
- Discrete soil sampling conducted along the recreational hiking trails within the Former Shooting Range investigation area. Samples were analyzed for lead.



Results of ISM Sampling for Lead

Results of the 2016-2017 Investigation

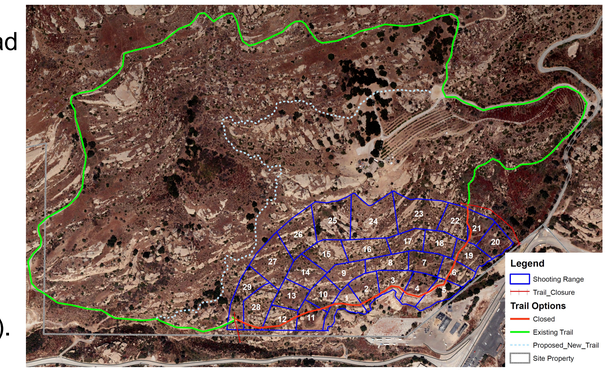
- Shooting Range Data Summary and Findings Report (DSFR) submitted in April 2017
- ISM lead concentrations ranged from 24 to 3,246 milligrams per kilogram (mg/kg)
- Lead concentrations in the fine fraction of soil collected along the hiking trails during discrete soil sampling ranged from 4 to 5,100 mg/kg.
- A 1200-foot section of the Sage Ranch Loop Trail was closed on March 1, 2017 due to high lead concentrations. To prevent human exposure to the elevated concentrations, this segment will remain closed until the lead shot and impacted soils are removed.



Results of discrete sampling along Sage Range Loop Trail for Lead

Upcoming Work (Next 6 months)

- DTSC review of Shooting Range DSFR
- Rerouting of the Sage Range Loop Trail to allow the trail to continue to be utilized (anticipate rerouting complete in May 2017).



Rerouting of the Sage Range Loop Trail